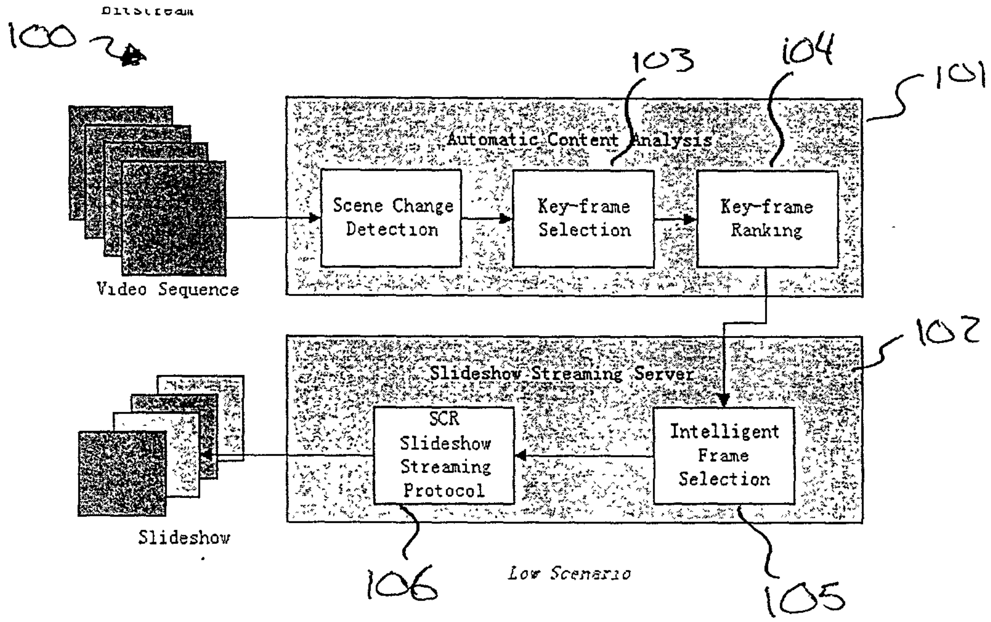

Bitstream
100
103
104
101
Automatic Content Analysis
Video Sequence
Scene Change Detection
Key-frame Selection
Key-frame Ranking
102
Slideshow Streaming Server
SCR Slideshow Streaming Protocol
Intelligent Frame Selection
Slideshow
106
Low Scenario
105

Fig. 1

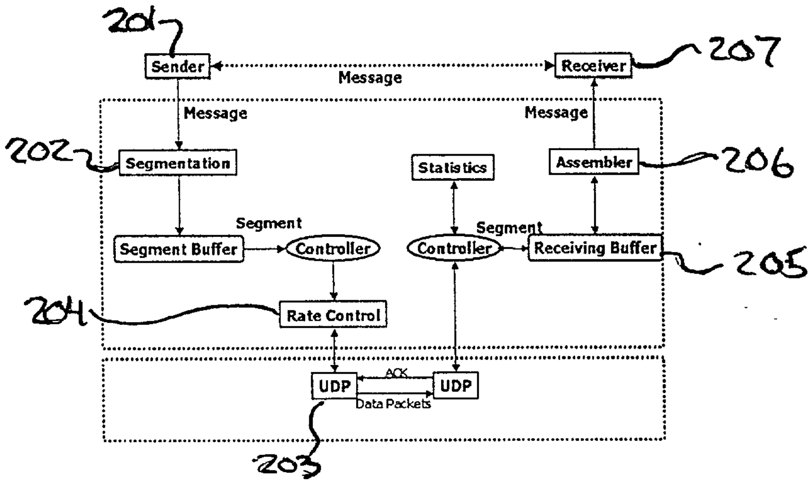
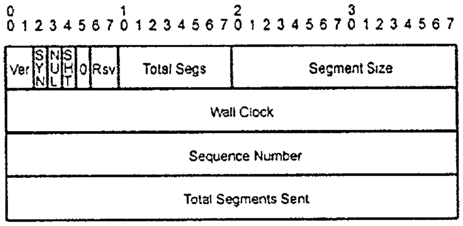
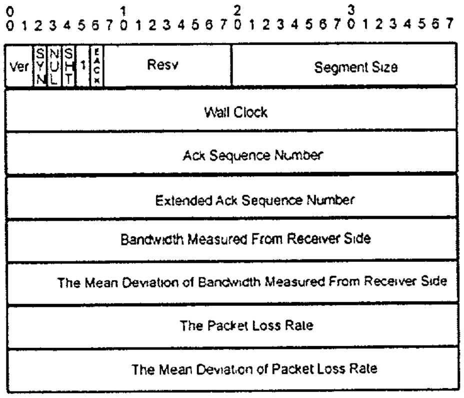


Fig. 2



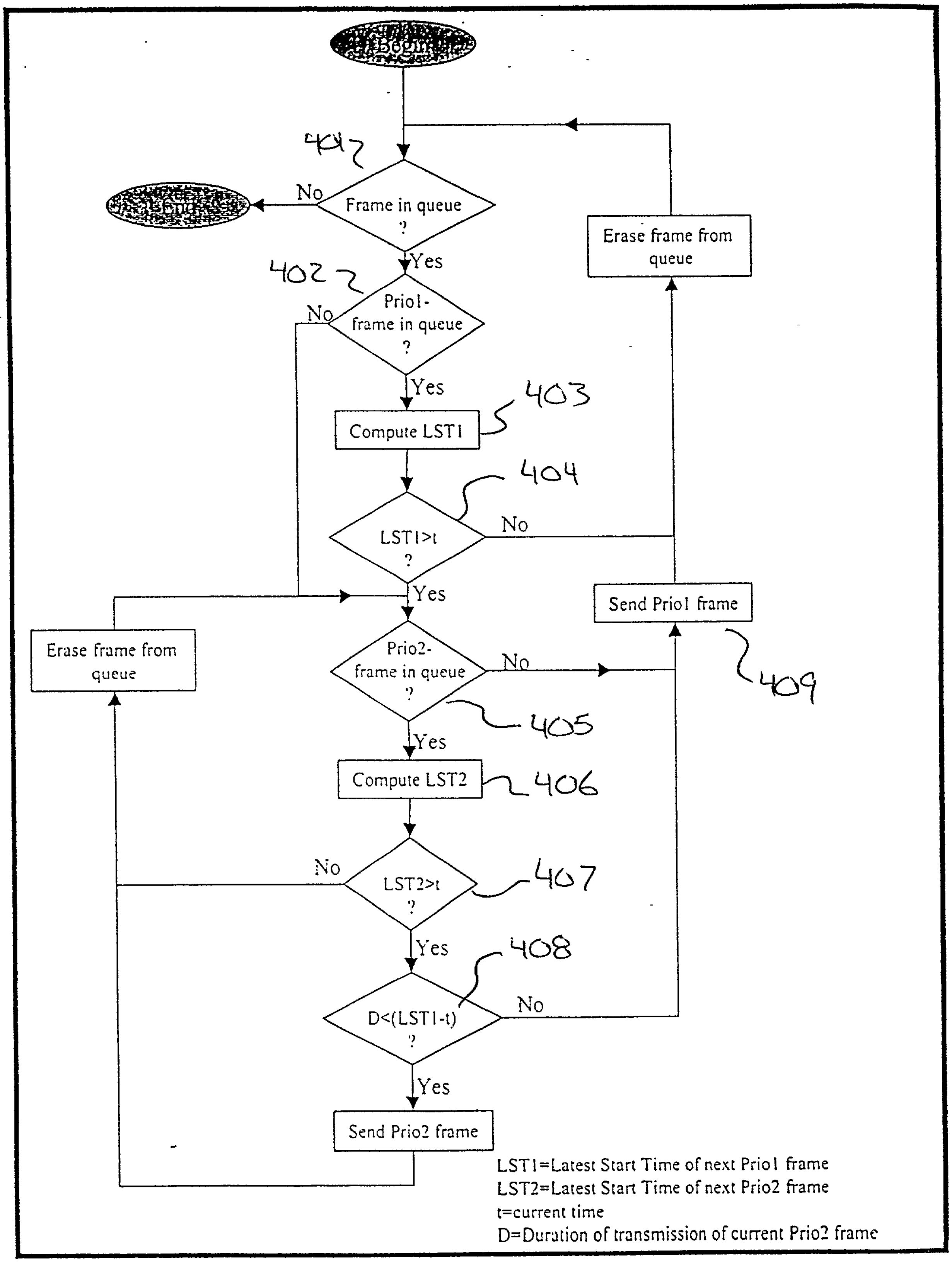
(a) Data Packet Header

Fig. 3a



(b) ACK Packet Header

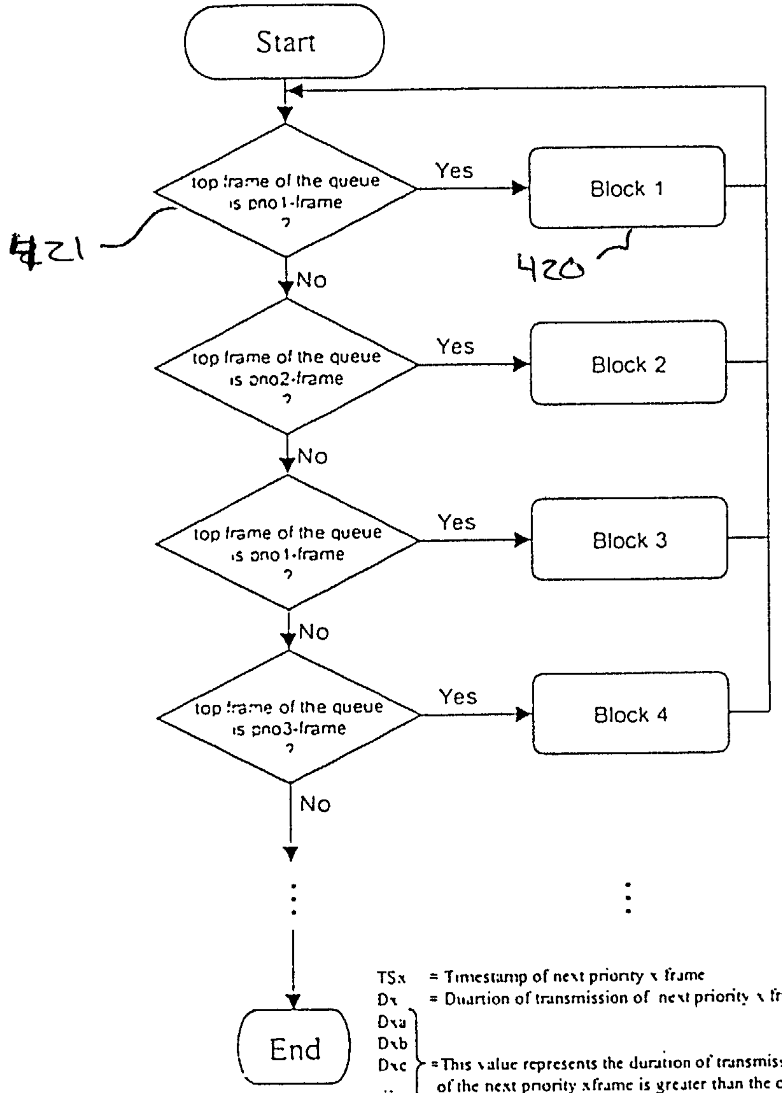
Fig. 3b



LST1=Latest Start Time of next Prio1 frame
LST2=Latest Start Time of next Prio2 frame
t=current time
D=Duration of transmission of current Prio2 frame

Fig. 4a

Fig. 46



TSx = Timestamp of next priority x frame
Dx = Duartion of transmission of next priority x frame
Dxa
Dxb
Dxc } = This value represents the duration of transmission and is set to zero, if e.g. the timestamp of the next priority xframe is greater than the one of the next priority (x-1) frame
..
...

LSTx = Latest Start Time of the next priority x frame

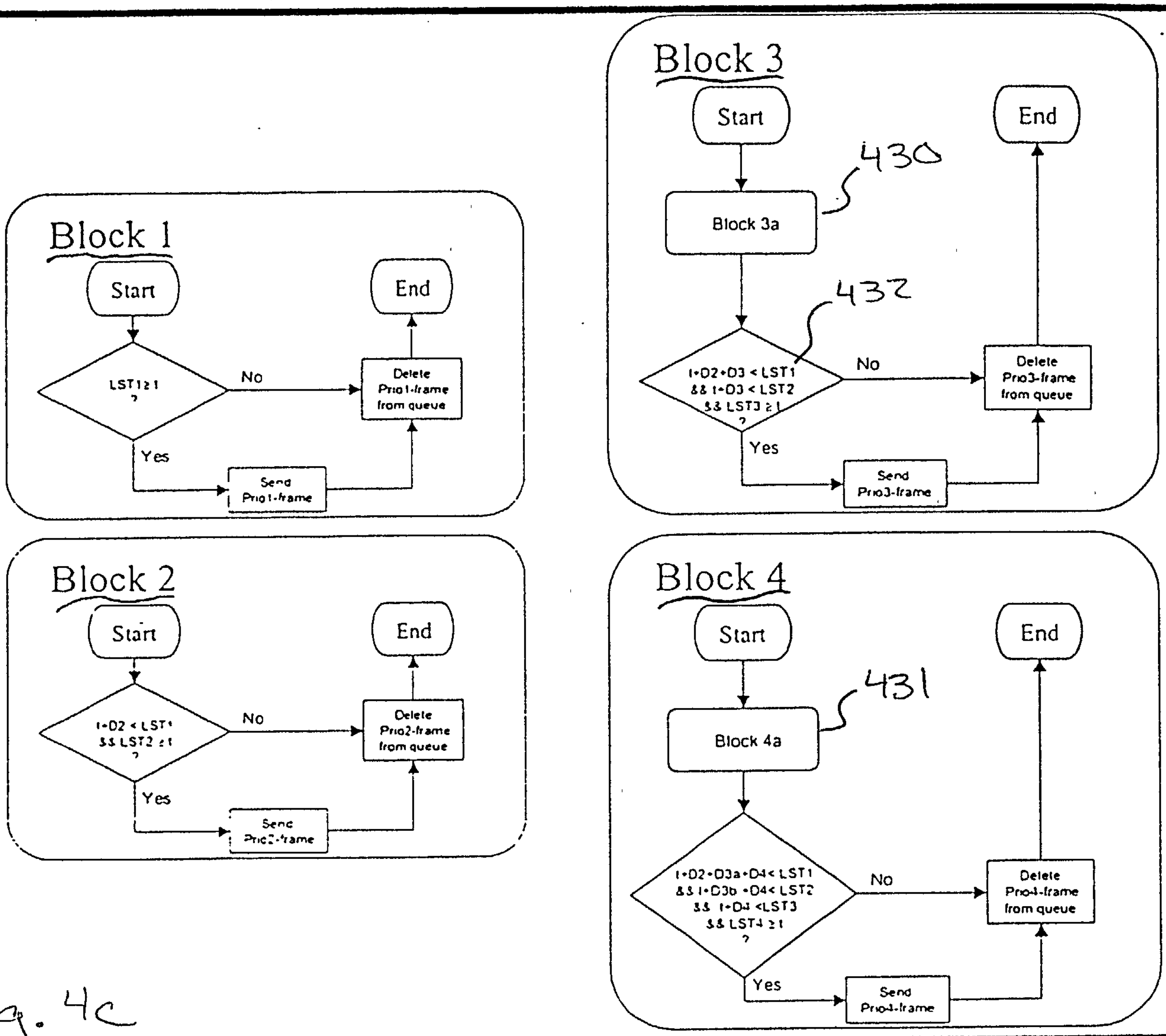

Block 1
Start
LST1≥1 ?
No
Yes
Send Prio1-frame
Delete Prio1-frame from queue
End
Block 2
Start
t+D2 < LST1 && LST2 ≥1 ?
No
Yes
Send Prio2-frame
Delete Prio2-frame from queue
End
Block 3
Start
430
Block 3a
432
t+D2+D3 < LST1 && t+D3 < LST2 && LST3 ≥1 ?
No
Yes
Send Prio3-frame
Delete Prio3-frame from queue
End
Block 4
Start
431
Block 4a
t+D2+D3a+D4< LST1 && t+D3b +D4< LST2 && t+D4 <LST3 && LST4 ≥1 ?
No
Yes
Send Prio4-frame
Delete Prio4-frame from queue
End

Fig. 4c

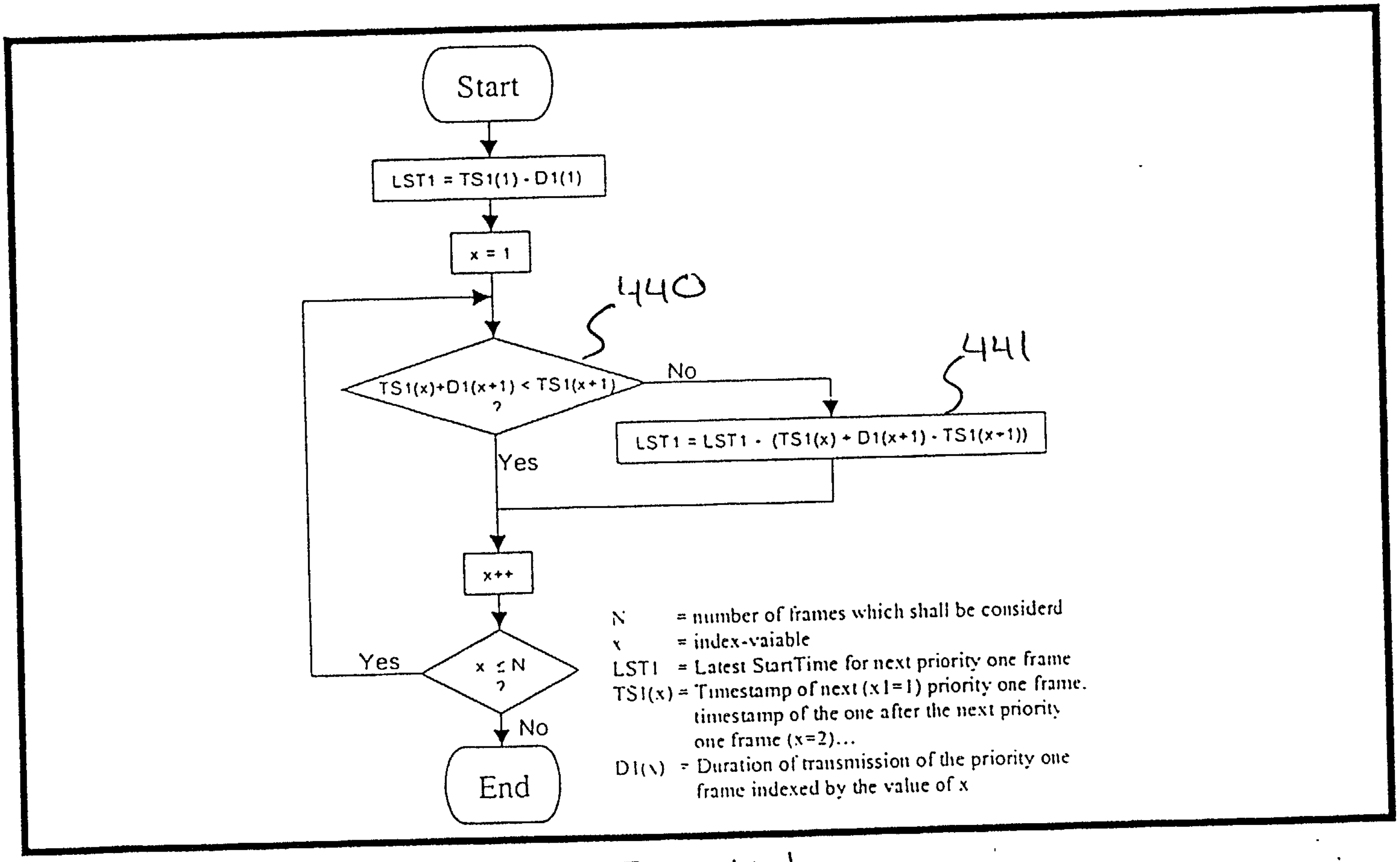

Start
LST1 = TS1(1) - D1(1)
x = 1
440
TS1(x)+D1(x+1) < TS1(x+1) ?
No
441
LST1 = LST1 - (TS1(x) + D1(x+1) - TS1(x+1))
Yes
x++
x ≤ N ?
Yes
No
End
N = number of frames which shall be considerd
x = index-vaiable
LST1 = Latest StartTime for next priority one frame
TS1(x) = Timestamp of next (x1=1) priority one frame. timestamp of the one after the next priority one frame (x=2)...
D1(x) = Duration of transmission of the priority one frame indexed by the value of x

Fig. 4d

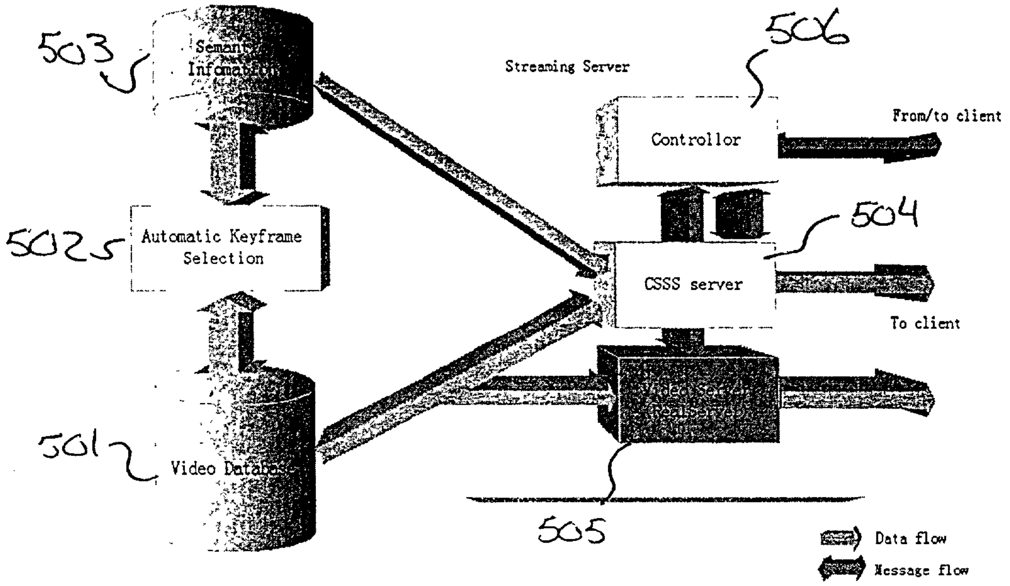

503
Semantic Information
502
Automatic Keyframe Selection
501
Video Database
Streaming Server
506
Controllor
From/to client
504
CSSS server
To client
Video Server (Realserver)
505
Data flow
Message flow

Fig. 5

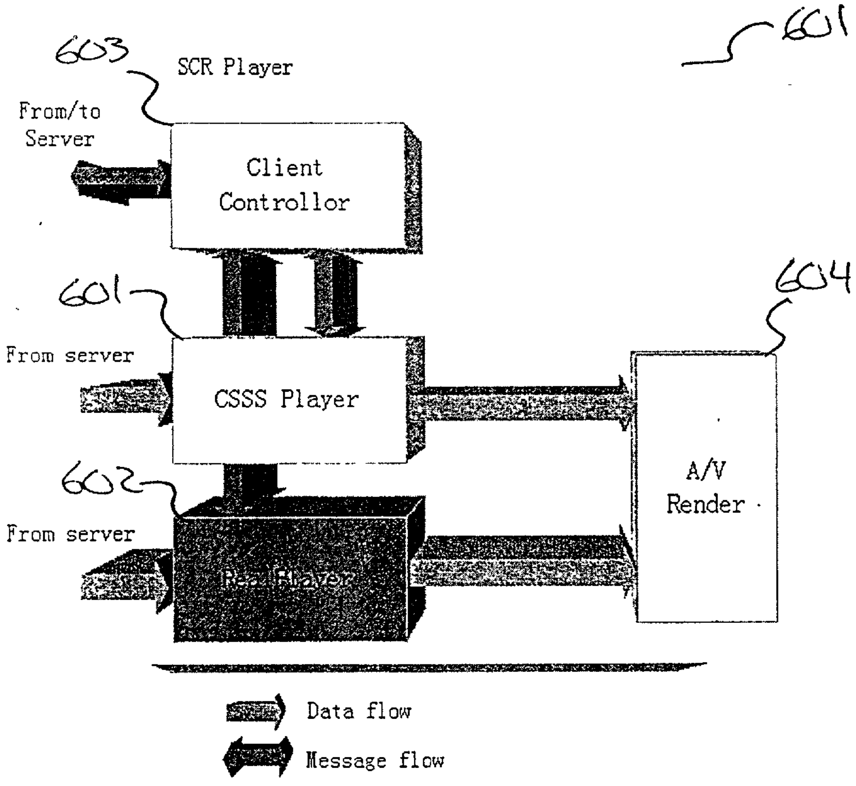

601
603
SCR Player
From/to Server
Client Controllor
601
From server
CSSS Player
604
A/V Render
602
From server
RealPlayer
Data flow
Message flow

Fig. 6

frame	f1	f2	f3	f4	f5	f6	f7	f8	f9	f10	f11	f12	f13	f14	f15
priority	1	2	2	2	2	1	2	2	2	2	1	2	2	1	2
timestamp	0	3	4	5	7	8	10	13	14	15	16	17	18	19	21
transmission time	2	1	2	3	1	4	2	1	2	1	3	1	2	3	1

Fig. 7a

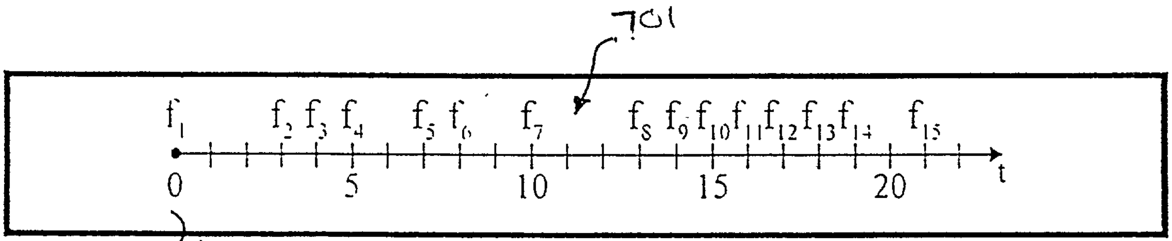


Fig. 7b